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1. (Amended) A method [for] of transmitting data [transmission] in a radio communications system [with CDMA subscriber separation and variable spread factors, in which], the method comprising:

[-] transmitting signals from at least two data streams [and with] having data symbols spread by [means of] spread codes [(c) are transmitted], the signals being transmitted at the same time in one channel, wherein [in which case] different spread factors are [(SF) which are less than or equal to a maximum spread factor (SEInax) can be] used for the signals[,];

[- at the receiving end, the signals are detected with the aid of the spread codes (c), characterized - in that, at the receiving end, a number of] forming a virtual spread code [codes (cv) which are each related only to individual symbols or symbol groups in the symbol are formed] for a symbol in one of the signals having a spread factor [(SF)] which is less than a [the] maximum spread factor [(SFmax),] code:

[- the detection of this signal is carried out] detecting the one of the signals using the virtual spread [codes (cv),]; and

[-] arranging [the] detection results[, with the virtual spread codes (cv), are arranged in a row] to form a [the receiving-end] data stream [of] that corresponds to the one of the signals [signal with the lower spread factor] .

2. (Amended) The method of [as claimed in] claim 1, further comprising changing the virtual [in which a] spread code for a new symbol in one of the signals [(c) with a spread factor (SF) which is less than the maximum spread factor (Sfmax) is changed from symbol to symbol or from symbol group to symbol group].

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3. (Amended) The method of [as claimed in] claim 2, wherein changing [in which the change in] the virtual spread code comprises [(c) corresponds to the] splitting the [into] virtual spread code [codes (cv)].

4. (Amended) The method of [as claimed in] claim 2, wherein a [or 3, in which the] length of the virtual spread code [codes (cv)] corresponds to a [the symbol] length of a symbol having the maximum spread factor.

5. (Amended) The method [as claimed in one of the preceding claims, in which] of claim 1, wherein detecting is performed using a detection device [(DE) is] designed for a number of channels that [which] corresponds to a [the] number of channels associated with the maximum spread factor [(SFmax), with detection being carried out on the basis of virtual spread codes for processing of signals with different spread factors].

6. (Amended) The method of [as claimed in] claim 5, wherein [in which] the detection device performs detecting by eliminating [(DE) carries out joint detection with elimination of] at least one interference signal in the signals.

7. (Amended) The method [as claimed in one of the preceding claims, in which] of claim 1, wherein:

[-] the data symbols are at least partially superimposed to form a received signal[,];

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[-] the received signal is sampled and [is] passed to a reception matrix [(e),];

[-] a system matrix <u>contains</u> [(A) is occupied with] values[, which] <u>that</u> are related to <u>a</u> signal-specific channel impulse responses, wherein [on the basis of a band structure, with] <u>(i)</u> adjacent positions in the system matrix <u>contain</u> [(A) being occupied in such a manner that the] values of [the] different signals [alternate and the occupied], <u>(ii)</u> positions <u>in the system matrix</u> are aligned <u>to correspond</u> [corresponding] to [the] superimpositions <u>of</u> [between] the <u>data</u> symbols, [with] <u>and (iii)</u> correspondingly more adjacent positions <u>in the system matrix are</u> [being] provided for [the] signals with [the] lower spread [factor,] <u>factors; and</u>

[- linear] detection is <u>performed</u> [carried out] for [the] data symbols in the at least two data streams<u>, using the received signal,</u> by linking the system matrix [(e)] and the reception matrix [(e)].

8. (Amended) A receiving device for a radio communications system, <u>comprising:</u>

[which has] at least one [associated] antenna [(AT)] for receiving [a received signal,] <u>signals; and</u>

[having] a channel estimator [(KS)] for determining signal-specific channel impulse responses of at least two <u>received</u> signals in simultaneously transmitted data streams <u>having</u> [with] data symbols spread by [means of] spread codes [(c),];

<u>wherein</u> [in which case] different spread codes <u>are used</u> [(SF), which are less than the maximum spread factor (SFmax), can be set] for the <u>at least two received</u> signals,